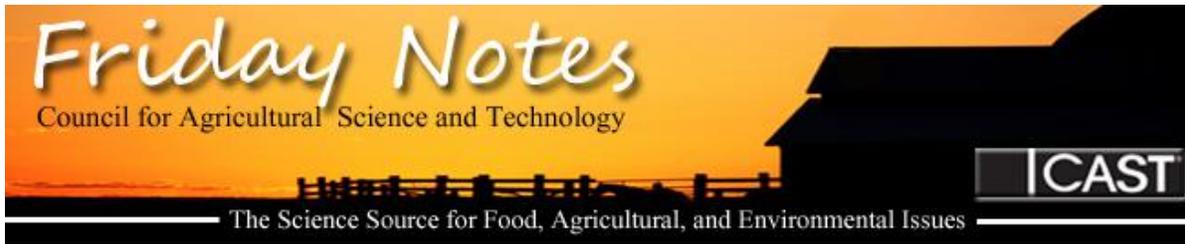


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Friday Notes is designed to enhance communication among various agricultural sectors, educators, students, and the public who are interested in a variety of plant, animal, food, and environmental issues. *Friday Notes* advocates the pursuit of credible, unbiased, science-based information. Material contained in linked articles is from the original authors and does not necessarily reflect the views of CAST.

In This Issue..... [Click to Read](#)

[Forthcoming Publications Take on Big Issues--P. 2](#)

[Animal Agriculture News](#)

[Food Science and Safety News](#)

[Plant and Environment News](#)

[International News](#)

[General Interest News](#)

Explosion of Jellyfish



"[Moon jellies gather](#), swarm, and munch on salmon eggs in the waters off Alaska.

Shaped by Waves

These students at Cal Poly use the ocean--from surfing to environmentalism--as a [means for research and entrepreneurial opportunities](#).

Buzzin' at UF

The University of Florida will open a new [state-of-the-art honey bee research lab](#) this summer.

5 Tips for Graduates

If you just graduated from high school, congratulations! Here are [a few tips to help simplify](#) the huge decisions coming your way.

Submit an Idea

We welcome suggestions for future CAST publications and



June 8, 2018

Agriculture and Innovation

General trends and specific applications

Many farmers are going high tech by using data analytics, soil maps, GPS guidance, drones, and more. These methods can help increase yields and efficiency--and, in many cases, save farmers a surprising sum along the way. The infographics in this article (published by *National Geographic* and sponsored by Land O'Lakes, Inc.) show some of the [basic ways precision agriculture is affecting agriculture](#). But the proof is in the "cyber pudding." What are the specific applications and effects of new techniques?



Every *Friday Notes* edition features links about innovations and various ag/science technology developments. For example: scroll down to the Animal Section to see how a new system can help keep pigs healthier; follow your nose to the Food Section to find out about sniff seal technology; in the Plant Section, meet a farmer who says it's cool to watch science in action in his fields; the International Section includes a story about the millions of dairy farmers in India who want more tech for their production methods; and the General Section has a piece about young farmers and precision agriculture.

News and Views

Some Farm Bill Harmony: Leaders of the Senate Agriculture [Committee reached agreement on a bipartisan Farm Bill](#) that would keep the 2014 farm law largely intact while avoiding a partisan fight over food stamps.

Tariff Escalation: Mexico and several other countries are hitting back against U.S. steel and aluminum tariffs with their own [tariffs--especially on agricultural items](#).

Biofuels, the EPA, and the Administration: A coalition of biofuel and agriculture groups petitioned the EPA to change its [regulations regarding exemptions](#) from Renewable Fuel Standard (RFS) obligations, and

projects. [Click here to submit ideas.](#)

Farm to Food Truck

This summer, encourage your youngsters to [learn the story behind their food](#) firsthand with this fun food challenge.

Water Quality Efforts

Iowa State agronomists are joining with two corporations to create an infrastructure [project designed to monitor water quality and downstream nitrate loss.](#)

Dairy Scholarships

New York state students interested in dairy farming careers will get a boost thanks to a [new scholarship program from Cornell University](#) and a major foundation.



Catch CAST Online!

Follow us on [social media](#) to stay up to date on the latest ag trends and recent CAST news!

President Trump [apparently rejected proposed changes](#) to the RFS.

A "Winning" Message: In this guest blog, Vance Crowe explains the [importance of communicating what is true.](#)

News from the Far Side of the Barn

Colossal Clusters of Caterpillars (video): Swarms of caterpillars were [discovered gathering on trees](#) in Montreal, Canada.

Rhino Reproduction:

Take a look at the [complex and critically important work](#) being done to artificially inseminate rhinos in an effort to save them from extinction--related link in the International Section.



Cheering for Science

(video): Alison Van Eenennaam, Carl

Winter, and a host of enthusiastic "scientific cheerleaders" mimic OMI's catchy tune to emphasize [the importance of yelling out for science.](#)

The Peterson Farm Bros [broke out the electric guitar](#) for their latest parody--a take on AC/DC's *Thunderstruck*.

Examining Big Issues

Gene Editing and Free-range Poultry Papers Forthcoming from CAST



On June 4 in St. Louis, an audience hosted by the Society for In Vitro Biology enjoyed a preview of CAST's forthcoming gene editing paper. Task Force Chair Adam Bogdanove (Cornell University) presented key information. CAST EVP

CAST will officially roll out its much-anticipated Issue Paper #60--[Genome Editing in Agriculture: Methods, Applications, and Governance](#)--on July 9 in Washington, D.C.

Kent Schescke introduced the event, and various board members attended, including David Songstad--the CAST Liaison for the publication.

As the paper says, "The power of genome editing suggests that, if conducive social and regulatory conditions are in place, it can substantially increase the positive impacts of plant and animal breeding on human welfare and sustainability."

The publication will be an important resource for regulatory agencies, policymakers, research institutions, industry, and the general public. Watch for specifics about the July 9 events in upcoming *Friday Notes* editions.

Free-Range Poultry Publication



On July 18 in Washington, D.C., CAST will roll out Issue Paper #61, [Impact of Free-range Poultry Production Systems on Animal Health, Human Health, Productivity, Environment, Food Safety, and Animal Welfare Issues](#).

Task Force Cochairs Jacquie Jacob and Tony Pescatore (both from the University of Kentucky) will present science-based findings about this important issue. The publication reviews what is known about poultry egg and meat production with specific attention to available research on niche production systems--looking at management, health, nutrition, food safety, and other topics. Watch for details regarding the rollout events and access to the publication in upcoming *Friday Notes* editions.

Friday Notes News Categories

Photos courtesy of the Agricultural Research Service (top masthead); TopLatest News (globe at right). P. 1 jellyfish pic from pinterest.com, precision ag graphic from agthentic.com, and Peterson brothers photo from dailymotion.com. P. 2 chicken pic from dailygreen.jpg. Animal Sec. pig pic from pbs.twimg.com. Food Sec. nose pic from mypharmaplace.com. Plant Sec. hay pic from livingthecountrylife.jpg. Inter. Sec. rhino pic from dailymail.co.uk. Gen. Sec. Mars graphic from secondcloudontheleft.blogspot. Unless otherwise noted, photos courtesy of the USDA Agricultural Research Service.



Animal Agriculture and Environmental News



"I smell good--it's those other pigs that bother me." A major hog company is [using electrostatic fence technology in](#)

"Tell-tail" Signs (video): This new high-tech system could help farmers [spot health and welfare concerns in pigs](#)--eliminating a significant economic concern for the industry.

[confinement barns to reduce odor](#). Iowa State University is testing the results.

Virtual Pig Farm Tour: Enjoy a [virtual farm tour of 78 swine production sites](#) in 24 countries with this interactive guide.

Welfare Versus Natural Behavior: Research shows there is a [fine balance for any welfare assessments](#) in poultry housing systems.

Animal Welfare (related to above): CAST's recent task force report--[Scientific, Ethical, and Economic Aspects of Animal Welfare](#)--looks at the welfare of poultry and other livestock.

Trying Out New Practices (related to above): This poultry business in India is investing in [floor housing for broiler breeders](#), [climate regulation](#), and "natural beak smoothing."

Milking It: USDA Undersecretary Bill Northey says [the Dairy Margin Protection Program \(MPP\)](#) has generated thousands of new participants--most of America's milk is now covered by the MPP program.

The "World's Fair" for Pork: A record-setting trade show, an expanded seminar lineup, elite swine displays, and an abundance of delicious pork are [all part of the 2018 World Pork Expo](#)--so far, the tariff controversy is not dampening the mood.



Food Science and Safety News

The Story Behind Beef (video): This rancher, mother, and communicator uses snippets of her daily life on a cattle ranch to [bridge the gap between farmers and consumers](#).

Biotech Plants and Omega-3s: As demand for omega-3s continues to rise, alternative sources are being explored, and many think that [genetically engineered oil seed crops could have an impact](#) on easing pressure on fish stocks.

Omega-3s and Informed Consumers (related to above): Check out the [recent CAST Special Publication, Omega-3 Fatty Acids: Health Benefits and Dietary Recommendations](#).

Combating Misinformation: Genetic improvement of food crops sometimes gets a bad rap, but University of Florida researchers plan to educate consumers so they can [make more informed decisions at the grocery store](#).

An Alt-meat Reckoning (opinion): This article examines the [energy use, resource consumption, and eco-effect of alt-meat and conventional meat](#) side-by-side.

Hops Deliver Brain Boost: New research suggests that a derivative of [the same chemical compound found in beer has the potential to improve cognitive function](#) in people with metabolic syndrome.



[Sniff seal technology](#) lets you know what a product smells like before you buy it.



Plant Agriculture and Environmental News

Know Your Biotech Plants (video): This short clip created for the Minnesota 4-H Science of Agriculture Challenge helps us know [what food crops come from genetically engineered plants](#).

Science in Action: This Nebraska farmer [uses science to boost soybean yields](#). He believes the initial yield key was the delivery of biologicals coupled with highly effective machinery.

New Corn Hybrid: Research on this new trait has [increased the efficiency of photosynthesis](#) in corn.

Helping Stressed Corn: This university study describes the genetic pathways at work [when corn plants respond to stress brought on by heat](#), a step that could lead to crops better capable of withstanding stress.

More Than a Salad After-thought: This paper looks at [radishes grown as a cover crop](#)--and the effects on yields and nitrogen fertilizer uptake.

Using Trees to Take Care of the Land (podcast): This segment emphasizes the [importance of trees in a conservation plan](#).



Mark Parker lists his [top ten hay-making challenges](#), and this blog looks back at "Fresh-cut Hay--the [Intoxicating Smell of Nostalgia](#)."



International News

Sexy Plants: "Sexy plants" are on the way to replace certain pesticides, scientists say, by [producing the sex pheromones of insects](#) that then frustrate pests' attempts to mate.

Global Focus on Plastic Pollution: The United Nations' World Environment Day had a special [focus this year on eliminating plastic pollution](#).

Ending Hunger: In this editorial, Jeff Simmons says [ending world hunger may seem like a daunting task](#), but if you consider a few simple fundamentals and real examples, it is possible.

Dubai's Desert Discovery: A successful harvest of salt-resistant rice [raises researchers' hopes for the future](#) of food production.

New Tech for India: Although the average farmer has a small herd and lack of technology, [India is home to 75 million dairy farmers](#) who produce more milk than the EU.



Poachers are killing rhinos at a rate of three per day in South Africa, so [some tout a controversial plan to farm rhinos](#).

The People Who Protect Your Plate: The Food Standards Agency is celebrating National Food Safety Week in the United Kingdom by recognizing the work of [staff members who ensure that food is safe](#).



General Interest News

Plastic Patrol (video): These inventors [devised a way to reduce the amount of plastic](#) that ends up in oceans and lakes.

Veterans and Ag (video): Secretary of Agriculture Sonny Perdue announced a partnership between the [USDA and Texas A&M to help military veterans](#) obtain loans and pursue careers as farmers and ranchers.

Youth and Precision Ag: A new generation of tech-savvy, data-hungry [young farmers have reinvented large-scale agriculture](#)--from sensors and satellites to tractors and drones.

Ag Films Worth Watching: Grab some popcorn and [check out this list of agricultural films](#) that are sure to grow your understanding of food and agriculture.

Experience, Wisdom, and Progress (podcast): Bud Jorgenson has been farming for 75 of his 91 years, and he says he's not ready to quit just yet. This interview includes [his insights about progress and changes](#).



Life on Ancient Mars? The engineering marvel, NASA's Mars rover, shows us that ancient [Mars had carbon-based compounds--organic molecules](#).

CAST Information

Check out CAST's page at the [YouTube site](#) to view highly regarded ag-science videos about probiotics, food safety, and water issues--or the latest video dealing with proposed mandatory labeling of GMO food items.



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- * American Farm Bureau Federation
- * American Meat Science Association
- * American Meteorological Society, Committee on Agricultural and Forest Meteorology
- * American Seed Trade Association
- * American Society for Nutrition Nutritional Sciences Council
- * American Society of Agricultural and Biological Engineers
- * American Society of Agronomy
- * American Society of Animal Science



- * American Society of Plant Biologists
- * American Veterinary Medical Association
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- * BASF Corporation
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- * Croplife America
- * Crop Science Society of America
- * Entomological Society of America
- * Innovation Center for U.S. Dairy
- * Land O'Lakes
- * Monsanto
- * National Corn Growers Association/Iowa Corn Promotion Board

- * National Milk Producers Federation
- * National Pork Board
- * North Carolina Biotechnology Center
- * North Central Weed Science Society
- * Northeastern Weed Science Society
- * Poultry Science Association
- * Society for In Vitro Biology
- * Soil Science Society of America
- * Syngenta Crop Protection
- * The Fertilizer Institute
- * Tyson Foods
- * United Soybean Board
- * Weed Science Society of America
- * Western Society of Weed Science

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